



STELLA-Q2 Software Instructions

1. Break the pointy ends off a couple of toothpicks, so you have some short round rods. (Don't use something metal, like a paperclip or wire.)
2. Drop the toothpick rods into the b and r (boot, and reset) square holes.
3. Hold down the boot button with the toothpick rod, and click and release the reset button with the second toothpick rod.
4. A drive labeled RP1-RP2 should show up on your computer's drive list/file explorer/ finder.
5. Uncompressed/ Extract the contents of the Q2 zip file.
6. Open the UF2 folder, and drag and drop copy the file onto the RP1-RP2 drive. The filename will be adafruit-circuitpython- sparkfun_thing_plus_rp2040-en_US-x.x.x.uf2, where x is a number or numbers.
7. Allow the copy to proceed. When finished, the RP1-RP2 drive will self- eject, to be replaced by the CIRCUITPY drive.
8. Open the CIRCUITPY drive. You'll see a boot_out.txt file, a lib folder, and a code.py file. You might also see a folder named sd. If you don't see the sd folder, create it. Don't put anything in it, it needs to be an empty folder and it needs that specific name.
9. Open the q2-code-and-libraries folder, to find the code.py and the lib folder.
10. Copy both, the lib folder and the code.py file, onto the CIRCUITPY drive.
11. Your computer will ask if you want to replace the existing files. You do. Replace, don't Merge.
12. Once the copying is done, you will have, if all goes well, a working Q2 instrument.

Date and time set instructions: Setup: You'll need to set the date and time.

1. Open a Chrome browser window on your computer. It has to be Chrome for this to work.
2. Navigate to <https://code.circuitpython.org/>
3. Select USB as your type of connection.
4. Then click on the Connect to Device button.
5. Choose the device named Thing Plus RP2040(cu.usbmodemx), where x is a four digit number.
6. Then click the Use CIRCUITPY to select the USB host folder.
7. Your computer may ask if Google Chrome.app may access files on a removable volume. Allow this.
8. On the bottom of the browser window, there are two buttons, Editor and Serial. Click on the Serial button to open a Serial dialogue panel. That's where you'll set the time.
9. Click the Restart button at the top of the serial panel to restart the Q2 instrument program. You'll see a lot of output go by. You can safely ignore it, or look at the code later if you are interested in finding out about those lines.
10. Hold down the MODE button on the Q2 for a good long time ~10s, until the serial dialogue reports:

long_press

The date is Sunday 2093-5-12 The time is 15:44:52

Current year is 2093. Enter a new year and press return, or press return to skip.

Your values for date and time will likely be different.

Date and time set instructions: Enter the new date and time.

1. Enter the correct year, by clicking in the serial panel and then typing the year number. (2025 at the time of this writing)
2. Do the same for month, and for day.
3. For the UTC time, look up the correct hour at <https://time.is/UTC> or something similar. Geospatial instruments use UTC time to avoid confusion about timezones and daylight savings time shifts.
4. Enter the correct hour for UTC, and then the minutes and seconds, and then the three letter code listed for the day of the week.
5. After you enter the day, the instrument will return to regular function. You can unplug the Q2 instrument from the computer and go measure the spectra of light reflected off of things! (Don't point the sensor at the sun, as it's too bright for the sensor and will likely damage it.)

If you want to check the time, restart the instrument and look at the display screen.